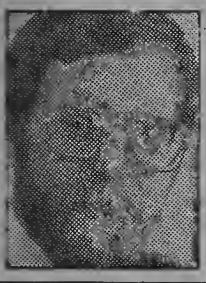

EXECUTIVE COMPUTING

HILLEL SEGAL

'Free' backup close at hand for IBM users

Backing up your small computer's hard disk is like checking your car's oil. It's a pain in the neck and time consuming, but ignore it and sure enough you'll wind up stranded — whether on the road or in your office.

The most common way to back up a hard disk is with a tape system. Although it isn't commonly known, there is a low-cost alternative to tape for IBM PC and XT computer users, a technique that also avoids the time and trouble you normally would expect.

No matter how many files you have on your hard disk, the key question to ask is, how many files do you actually change during one day or one week? If your computer usage is like most, there are relatively few old files being updated or new ones being added on a regular basis.

If that's the case, you probably don't need a tape backup system at all. If you have a small IBM system with PC-DOS — the IBM disk operating system — version 2.0 or higher, or another computer that uses MS-DOS from Microsoft, your backup system was on the DOS disk when you bought it. Appropriately called BACKUP, it is one of the utilities included at no extra charge. If you have an older version of DOS, you'll probably want to upgrade anyway because most newly released programs require version 2.0 or higher. The cost is about $60.

The BACKUP program uses an archive bit that is part of the directory of all your files. After a file has been backed up, the bit is set "off." Then, when the file is changed in any way, it is set "on." When you do your next backup, the program simply searches for the "on" bits and backs up just those files.

The result is that you can usually do your daily backup in just a few minutes. Ordinary floppy disks are used for the backups.

When a file on the hard disk is larger than 360 kilobytes, the capacity of a single floppy disk, the program actually splits the file for you, allowing it to span multiple floppy disks if necessary. If you later need to restore the original

file from the backup disks, the program does that too.

Not well publicized

Why do so few people know about the DOS backup program? Tape backup systems are one of the hottest-selling peripherals on the market, mainly because people are learning (too often the hard way) how insecure their data is on hard disks. Can you imagine how many tape systems would be sold if they had to carry the message, "WARNING — Use of this product may be unnecessary. Check to see if the same result can be accomplished in less time and less cost using the backup command on your operating system"?

In short, no one has an incentive to tell you about the program. Even many of the salespeople who sell tape backup systems don't know about it. So, they proceed to sincerely sell the tape systems as if they are the only option.

But in most cases, the DOS backup command is a realistic alternative. Typically, offices that use a 10-megabyte hard disk have the following items on the disk: Two to three megabytes of application programs such as database, word processing, accounting and spreadsheet programs; three to five megabytes of data files for all of the above; and at least two megabytes of work space, for when a file is sorted, and empty space.

Assuming that the original program disks — used to load the programs onto the hard disk — are available in case an emergency requires you to reload the programs, you are left with just three to five megabytes of data files that need backing up. Five megabytes of files might use 15 floppy disks and take less than 30 minutes. All your programs and data could probably be backed up on 20 to 25 floppies in under an hour. (These are very exaggerated estimates.)

For the purpose of this example, assume that one-third of all your data files have changed since your last backup — a high estimate. You'll need a maximum three to six floppies and less than five minutes. More realistically, it might take one to three floppies and only two or three minutes. Compare that to the four to six minutes usually required by tape systems.

Since you only need to copy files that have been changed since the last backup, the time and effort is cut even more. For all subsequent backups, you type the following command to get your new backups on a formatted blank disk (with your disk in drive A and your hard disk named drive C):

BACKUP C: . . . A: /S /M

For a more complete description of the procedure, write to me at the address below.

Some drawbacks

A few drawbacks of the DOS backup procedure should be noted, especially in this comparison to tape systems. You'll have an initial investment of several boxes of diskettes, which might cost up to $100 if you have a lot of files and plan to back up often. Since the DOS backup procedure requires you to use fresh diskettes each day instead of reusing backup diskettes, you'll probably want to start over periodically. This saves the cost of continually buying new disks.

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